

**What is claimed is:**

1. A spring-supported crankshaft coupling structure used in an engine and coupled between a piston and a crankshaft to enhance the output torque of the engine, comprising:

5           a connector mounted in said piston and axially movable relative to said piston coupled to said piston within a limited distance;

          a slip joint adapted to couple said connector to said piston;

          a spring member mounted inside said piston and adapted to impart a pressure to said connector in axial direction toward a bottom side of said  
10   piston;

          a fixed stop device fixedly provided in said piston and adapted to limit the movement of said connector relative to said piston to a predetermined distance; and

          a connecting rod, said connecting rod having a top end pivoted to said  
15   connector and a bottom end pivoted to said crankshaft.

2. The spring-supported crankshaft coupling structure as claimed in claim 1, wherein said spring member is a compression spring.

3. The spring-supported crankshaft coupling structure as claimed in claim 1, wherein said connector comprises a round top head connected to a bottom side of  
20   said spring member, a circular stop flange, which is stopped below said spring member above said fixed stop device and adapted to stop at said fixed stop device upon a down stroke of said connector relative to said piston, and two shoulders symmetrically bilaterally suspended below said circular stop flange

and coupled to said piston by said slip joint.